

IN THE CLAIMS

1. (canceled)
2. (canceled)
3. (canceled)
4. (canceled)
5. (canceled)
6. (canceled)
7. (canceled)
8. (canceled)
9. (currently amended) An optical glass consisting of, in mass %,

SiO ₂	55.35-70%
B ₂ O ₃	3-less than 15%
PbO	0-2%
Al ₂ O ₃	0-2.3%
Li ₂ O	0-3%
CaO	0-2%
SrO	0-2%
ZrO ₂	0-2%

wherein the total amount of the CaO, SrO and ZrO₂ ingredients is 2% or less and Na₂O +K₂O + BaO + ZnO in the total amount of 10-45%

TiO₂ 0-0.5% and

fluoride or fluorides substituting for the above oxide or oxides partially or entirely, a total amount of F contained in the fluoride or fluorides being 0-11%, said optical glass including a fluorine ingredient and/or a titanium oxide ingredient and/or an arsenic oxide ingredient.

10. (canceled)

11. (currently amended) An optical glass as defined in claim 9 wherein an amount of change in refractive index (Δn : difference in refractive index between a state before radiation and a state after radiation) caused by radiation of laser beam at wavelength of 351nm having average output power of 0.43W, pulse repetition rate of 5kHz and pulse width of 400ns for one hour is 5 ppm or below.

12. (canceled)

13. (previously presented) An optical glass as defined in claim 11 comprising, in mass %, a total amount of 0.1-11% of F in one or more fluorides as the fluorine ingredient and/or 0.001-05% of TiO_2 as the titanium oxide ingredient and/or 0.001-1% of As_2O_3 as the arsenic oxide ingredient.

14. (currently amended) An optical glass comprising, in mass %,

SiO_2	55.35-70%
B_2O_3	3-20%
Al_2O_3	0-2.3%
Li_2O	0-3%
CaO	0-2%

$Na_2O + K_2O + BaO + ZnO$ in the total amount of 19.5-45%

where

BaO	1.19-42% [[and]]
TiO_2	0-0.5% and

fluoride or fluorides substituting for the above oxide or oxides partially or entirely, a total amount of F contained in the fluoride or fluorides being 0-11% wherein an amount of change in refractive index (Δn : difference in refractive index between a state before radiation and a state after radiation) caused by radiation of laser beam at wavelength of 351nm having average output power of 0.43W, pulse repetition rate of 5kHz and pulse width of 400ns for one hour is 5 ppm or below.

15. (previously presented) An optical glass as defined in claim 14 further comprising, in mass %,

CaO	0-2%
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SrO 0-2%

ZrO₂ 0-2%

the total amount of one or more of the CaO, SrO and ZrO₂ ingredients being 2% or below.

16. (canceled)

17. (previously presented) An optical glass as defined in claim 14 comprising a fluorine ingredient and/or a titanium oxide ingredient and/or an arsenic oxide ingredient.

18. (previously presented) An optical glass as defined in claim 17 comprising, in mass %, a total amount of 0.1-11% of F in one or more fluorides as the fluorine ingredient and/or 0.001-0.5% of TiO₂ as the titanium oxide ingredient and/or 0.001-1% of As₂O₃ as the arsenic oxide ingredient.

19. (currently amended) An optical glass comprising, in mass %,

SiO₂ 55.35-70%

B₂O₃ 3-20%

PbO 0-2%

Al₂O₃ 0-2.3%

Li₂O 0-3%

CaO 0-2%

Na₂O +K₂O + BaO + ZnO in the total amount of 1.0-45%

where

BaO 1.19-42% [[and]]

TiO₂ 0-0.5% and

fluoride or fluorides substituting for the above oxide or oxides partially or entirely, a total amount of F contained in the fluoride or fluorides being 0-11% wherein an amount of change in refractive index (Δn : difference in refractive index between a state before radiation and a state after radiation) caused by radiation of laser beam at wavelength of 351nm having average output power of 0.43W, pulse repetition rate of 5kHz and pulse width of 400ns for one hour is 5 ppm or below.

20. (previously presented) An optical glass as defined in claim 19 further comprising, in mass %,

CaO	0-2%
SrO	0-2%
ZrO ₂	0-2%

the total amount of one or more of the CaO, SrO and ZrO₂ ingredients being 2% or below.

21. (canceled)

22. (previously presented) An optical glass as defined in claim 19 comprising a fluorine ingredient and/or a titanium oxide ingredient and/or an arsenic oxide ingredient.

23. (previously presented) An optical glass as defined in claim 22 comprising, in mass %, a total amount of 0.1-11% of F in one or more fluorides as the fluorine ingredient and/or 0.001-0.5% of TiO₂ as the titanium oxide ingredient and/or 0.001-1% of As₂O₃ as the arsenic oxide ingredient.

24. (previously presented) An optical glass comprising, in mass %,

SiO ₂	55.35-70%
B ₂ O ₃	3-less than 15%
Al ₂ O ₃	0-2.3%
Li ₂ O	0-3%
CaO	0-2%

Na₂O +K₂O + BaO + ZnO in the total amount of 10-45%

where

Na ₂ O	0-13%
K ₂ O	0-12%
BaO	1.19-42%
and	
ZnO	0-7%
PbO	0-2%
TiO ₂	0-0.5%
As ₂ O ₃	0-1%
Sb ₂ O ₃	0-1% and

fluoride or fluorides substituting for the above oxide or oxides partially or entirely, a total amount of F contained in the fluoride or fluorides being 0-11% wherein an amount of change in refractive index (Δn : difference in refractive index between a state before radiation and a state after radiation) caused by radiation of laser beam at wavelength of 351nm having average output power of 0.43W, pulse repetition rate of 5kHz and pulse width of 400ns for one hour is 5 ppm or below.

25. (previously presented) An optical glass as defined in claim 24 further comprising, in mass %,

CaO	0-2%
SrO	0-2%
ZrO ₂	0-2%

the total amount of one or more of the CaO, SrO and ZrO₂ ingredients being 2% or below.

26. (canceled)

27. (previously presented) Optical glass as defined in claim 24 comprising a fluorine ingredient and/or a titanium oxide ingredient and/or an arsenic oxide ingredient.

28. (previously presented) An optical glass as defined in claim 27 comprising, in mass %, a total amount of 0.1-11% of F in one or more fluorides as the fluorine ingredient and/or 0.001-0.5% of TiO₂ as the titanium oxide ingredient and/or 0.001-1% of As₂O₃ as the arsenic oxide ingredient.

29. (previously presented) An optical glass comprising, in mass %,

SiO ₂	55.35-70%
B ₂ O ₃	3-20%
Al ₂ O ₃	0-2.3%
Li ₂ O	0-3%
CaO	0-3%

Na₂O +K₂O + BaO + ZnO in the total amount of 19.5-45%

where

Na ₂ O	0-13%
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K ₂ O	0-12%
BaO	1.19-42%
and	
ZnO	0-7%
PbO	0-2%
TiO ₂	0-0.5%
As ₂ O ₃	0-1%
Sb ₂ O ₃	0-1% and

fluoride or fluorides substituting for the above oxide or oxides partially or entirely, a total amount of F contained in the fluoride or fluorides being 0-11% wherein an amount of change in refractive index (Δn : difference in refractive index between a state before radiation and a state after radiation) caused by radiation of laser beam at wavelength of 351nm having average output power of 0.43W, pulse repetition rate of 5kHz and pulse width of 400ns for one hour is 5 ppm or below.

30. (previously presented) An optical glass as defined in claim 29 further comprising, in mass %,

CaO	0-2%
SrO	0-2%
ZrO ₂	0-2%

the total amount of one or more of the CaO, SrO and ZrO₂ ingredients being 2% or below.

31. (canceled)

32. (previously presented) An optical glass as defined in claim 29 comprising a fluorine ingredient and/or a titanium oxide ingredient and/or an arsenic oxide ingredient.

33. (previously presented) An optical glass as defined in claim 32 comprising, in mass %, a total amount of 01.-11% of F in one or more fluorides as the fluorine ingredient and/or 0.001-0.5% of TiO₂ as the titanium oxide ingredient and/or 0.001-1% of As₂O₃ as the arsenic oxide ingredient.

34. (previously presented) An optical glass comprising, in mass %,

SiO ₂	55.35-70%
B ₂ O ₃	3-20%
Al ₂ O ₃	0-2.3%
Li ₂ O	0-3%
CaO	0-2%

Na₂O +K₂O + BaO + ZnO in the total amount of 10-45%

where

Na ₂ O	0-13%
K ₂ O	0-12%
BaO	1.19-42%
and	
ZnO	0-7%
PbO	0-2%
TiO ₂	0-0.5%
As ₂ O ₃	0-1%
Sb ₂ O ₃	0-1% and

fluoride or fluorides substituting for the above oxide or oxides partially or entirely, a total amount of F contained in the fluoride or fluorides being 0-11% wherein an amount of change in refractive index (Δn : difference in refractive index between a state before radiation and a state after radiation) caused by radiation of laser beam at wavelength of 351nm having average output power of 0.43W, pulse repetition rate of 5kHz and pulse width of 400ns for one hour is 5 ppm or below.

35. (previously presented) An optical glass as defined in claim 34 further comprising, in mass %,

CaO	0-2%
SrO	0-2%
ZrO ₂	0-2%

the total amount of one or more of the CaO, SrO and ZrO₂ ingredients being 2% or below.

36. (canceled)

37. (previously presented) An optical glass as defined in claim 34 comprising a fluorine ingredient and/or a titanium oxide ingredient and/or an arsenic oxide ingredient.

38. (previously presented) An optical glass as defined in claim 37 comprising, in mass %, a total amount of 0.1-11% of F in one or more fluorides as the fluorine ingredient and/or 0.001-0.5% of TiO₂ as the titanium oxide ingredient and/or 0.001-1% of As₂O₃ as the arsenic oxide ingredient.

39. (currently amended) A method of providing making an optical glass for lenses of an optical system of an i-line j-line stepper, said method comprising providing in said i-line stepper a lens made from an optical glass having a composition employing an optical glass comprising, in mass %,

SiO ₂	55.35-70%
B ₂ O ₃	3-less than 15%
PbO	0-2%
Al ₂ O ₃	0-2.3%
Li ₂ O	0-3%
CaO	0-2%

Na₂O +K₂O + BaO + ZnO in the total amount of 10-45%

where

BaO 1.19-42% and

fluoride or fluorides substituting for the above oxide or oxides partially or entirely, a total amount of F contained in the fluoride or fluorides being 0-11%.